

Material Safety Data Sheet

EMERGENCY

FOR CHEMICAL EMERGENCY: SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CALL
CHEMTREC - DAY or NIGHT - (800) 424-9300

Product Name: **AB BRAND COPPER SULFATE CRYSTAL**

SECTION I - GENERAL INFORMATION

EPA Reg. No. 56576-1-8959

Manufactured For: Applied Biochemists
A division of Advantis Technologies, Inc.
W175 N11163 Stonewood Dr., Suite 234
Germantown, WI 53022
(262) 255-4449

Chemical Name & Synonyms: Copper Sulfate Pentahydrate
Generic Description: Copper Algaecide
Formula: $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$
D.O.T. Proper Shipping Name: Environmentally Hazardous Substance, Solid, N.O.S. (hydrated form of cupric sulfate)

D.O.T. Hazard Class: 9, PGIII (not regulated if <16 pounds)
U.N. or N.A. Identification No.: UN3077
Emergency Response Guide No.: 171

Hazardous Mat'ls ID System Values (HMIS): Health - 2 Flammability - 0 Physical Hazard - 1 Personal Protection - E
Nat'l Fire Protection Assn. (NFPA 704M): Health - 2 Flammability - 0 Reactivity - 1 Specific Hazard - None

SECTION II - HAZARDOUS INGREDIENTS

Hazardous Component(s)	CAS#	PEL	TLV
Copper Sulfate Pentahydrate *as copper dusts and mists (CAS# 7440-50-8)	7758-99-8	1 mg/m ³ *	1 mg/m ³ *

Ingredients listed in this section have been determined to be hazardous as defined in 29CFR1910.1200. Materials determined to be health hazards are listed if they comprise 1% or more of the composition. Materials identified as carcinogens are listed if they comprise 0.1% or more of the composition. Information on proprietary materials is available as provided in 29CFR1910.1200 (i) (1).

SECTION III - PHYSICAL DATA

Boiling Point:	150°C – 5H ₂ O	Specific Gravity:	2.28 @ 15.6 deg C
Vapor Pressure:	20 torr at 22.5 deg C	% Volatile (by volume):	N/A
Vapor Density (air = 1):	8.6	Evaporation Rate:	Not determined
Melting Point:	150 deg C (302 deg F)	Molecular Weight:	249.68
pH:	3.7 - 4.2 (10% Solution)	Boiling Point:	560 deg C [decomposes]
Solubility in Water:	31.6 g/100 cc water @ 0 deg C		
Appearance & Odor:	blue crystals or powder, odorless.		

SECTION IV - FIRE & EXPLOSION DATA

Flash Point: Not Flammable Method:

Extinguishing Media: Use methods for surrounding fire.

Special Fire Fighting Procedures: Copper sulfate pentahydrate is not combustible, but may decompose in the heat of fire to produce corrosive and/or toxic fumes.

Unusual Fire & Explosion Hazards: Always wear self contained breathing apparatus. Runoff from fire control or dilution water may be corrosive and/or toxic and cause pollution. Hazardous combustion products include sulfur oxides and copper fumes.

SECTION V - REACTIVITY DATA

Stability - Unstable X Stable

Conditions to Avoid: High temperatures, exposure to air and incompatible materials.

Incompatibility (Materials to Avoid): Mg, strong bases, alkalines, phosphates, acetylene, hydrazine, and zirconium, reducing agents, nitrates. This product can corrode aluminum, steel, and iron. Solutions of sodium hypobromite are decomposed by powerful catalytic action of cupric ions, even as impurities. Copper salts, including copper sulfate may react to form explosive acetylides when in contact with acetylene or nitromethane.

Hazardous Decomposition Products: sulfur oxides and copper oxides.

Hazardous Polymerization: Will Occur X Will Not Occur

AB BRAND COPPER SULFATE CRYSTAL

SECTION VI - HEALTH HAZARD DATA

Acute Health Hazards: **Harmful or fatal if swallowed.** Product is an eye and skin irritant, and may cause burns. Product is a respiratory tract irritant, and inhalation may cause nose irritation, sore throat, coughing, and chest tightness and possibly, ulceration and perforation of the nasal septum.

Chronic Health Hazards: Long term skin exposure to this product may lead to dermatitis and eczema. Prolonged or repeated eye contact may cause conjunctivitis and possibly corneal abnormalities. Chronic overexposure to this product may cause liver and kidney damage, anemia and other blood cell abnormalities.

Signs & Symptoms of Exposure: Skin irritation with pain, itching, and redness. Eye redness or pain. Gastrointestinal irritation with symptoms like nausea, vomiting, and diarrhea. Inhalation symptoms include sore throat, coughing, and shortness of breath.

Medical Conditions Generally Aggravated by Exposure:

Emergency & First Aid Procedures: See appropriate emergency procedures below for principle route of entry. Never give anything by mouth to an unconscious person.

Route of Entry: Inhalation: Remove to fresh air. Get immediate medical attention.
Eyes: Immediately flush with large amounts of water for at least 15 minutes. Get immediate medical attention.
Skin: Wash the area with large amounts of soap and water for at least 20 minutes. Wash clothes thoroughly before reuse.
Ingestion: Seek medical attention immediately. Have victim rinse mouth thoroughly with water, if conscious. **DO NOT INDUCE VOMITING.** Never give anything by mouth to an unconscious person.

SECTION VII - SPILL OR LEAK PROCEDURES

Personal Precautions: Wear personal protective equipment appropriate for the situation.

Methods for Cleaning Up: Wear appropriate PPE. Shovel into suitable container for disposal. Prevent accidental entry into streams and other water bodies.

Waste Disposal Methods: Dispose of in accordance with methods approved by local, state and federal regulations. RQ for Cupric Sulfate (CAS# 7758-98-7) is 10 lbs/4.54kg.

SECTION VIII - SPECIAL PROTECTION AND CONTROL MEASURES

Respiratory Protection: Not normally required. If needed, use NIOSH approved respirator for dusts.

Ventilation: Use mechanical ventilation such as dilution and local exhaust.

Gloves: Chemically-impervious

Eye Protection: Goggles, safety glasses with eye shields

Other Protective Equipment: None

Work or Hygienic Practices: Use safe chemical handling procedures suitable for the hazards presented by this material.

SECTION IX - SPECIAL PRECAUTIONS

Handling and Storage: Store in a cool, dry place. Wash hands thoroughly after use.

Other: Do not contaminate water, food, or feed by storage, disposal, or cleaning of equipment.
KEEP OUT OF REACH OF CHILDREN

THESE DATA ARE OFFERED IN GOOD FAITH AS TYPICAL VALUES AND NOT AS A PRODUCT SPECIFICATION. NO WARRANTY, EITHER EXPRESSED OR IMPLIED, IS HEREBY MADE. THE RECOMMENDED INDUSTRIAL HYGIENE AND SAFE HANDLING PROCEDURES ARE BELIEVED TO BE GENERALLY APPLICABLE. HOWEVER, EACH USER SHOULD REVIEW THESE RECOMMENDATIONS IN THE SPECIFIC CONTEXT OF THE INTENDED USE AND DETERMINE WHETHER THEY ARE APPROPRIATE.

Date of Last Revision: 02/20/06 by: JHW/NPD